

ASSIGNMENT 2

Textbook Assignment: "Light-Sensitive Materials" and "Photographic Filters." Pages 2-1 through 3-12.

Learning Objective: Identify basic characteristics of light-sensitive materials.

2-1. What type of salts is used to make photographic film?

1. Gelatin
2. Halide
3. Oxide
4. Silver

2-2. Undyed silver halides are sensitive to what color of light?

1. Blue
2. Green
3. Yellow
4. Red

2-3. What portion of photographic film or paper is light sensitive?

1. Base
2. Emulsion
3. Antihalation backing
4. Overcoating

2-4. What is the primary purpose of the base portion of photographic film and paper?

1. It prevents the emulsion from being damaged
2. It suspends the silver halides
3. It supports the emulsion
4. It contains sensitizing dyes

2-5. Because of the nature of the recording medium used in still video and digital cameras, they must be loaded in complete darkness.

1. True
2. False

2-6. Exposure to light causes what invisible change to a photographic emulsion?

1. Film speed
2. Development
3. Black-metallic silver
4. Latent image

Learning Objective: Identify film characteristics that you must take into consideration when selecting a type of film for a photographic assignment.

2-7. The inherent property of a film emulsion to respond to light is known by what term?

1. Film speed
2. Spectral sensitivity
3. Exposure latitude
4. Emulsion definition

2-8. What organization is responsible for the approval of a uniform set of film-speed standards?

1. Eastman Kodak Company
2. Morgan and Morgan Corporation
3. International Standards Organization
4. Film Speed Organization of America

2-9. A film may be assigned more than one film speed for which of the following reasons?

1. Because the film may be used in hot or cold weather
2. For use with fast or slow shutter speeds
3. Because the emulsion may respond differently to different qualities of light
4. To provide the photographer with an option of shooting fast or slow subject motion

- 2-10. What is/are the numerical value(s) assigned to film for exposure calculation?
1. ISO
 2. Exposure Index
 3. Both 1 and 2
 4. Light-meter Index
- 2-11. What does the term "spectral sensitivity" refer to in photographic emulsions?
1. The manner that the film responds to light only
 2. The intensity of light required to produce the proper exposure
 3. The duration of light or radiant energy required to produce a visible color image
 4. The way the emulsion responds to specific colors of light and invisible radiations
- 2-12. Colorblind emulsions are sensitive to which of the following colors of light?
1. Blue
 2. Green
 3. Red
 4. Yellow
- 2-13. Which of the following is NOT a classification of black-and white film?
1. Infrared
 2. Ultraviolet
 3. Panchromatic
 4. Orthochromatic
- 2-14. Red records on an orthochromatic film in what manner?
1. As a light-blue color
 2. As a dense deposit of silver
 3. As a clear area
 4. As a light-red color
- 2-15. To what type of radiation is a panchromatic emulsion NOT sensitive?
1. Infrared
 2. Ultraviolet
 3. Blue light
 4. Green light
- 2-16. To prevent the exposure of infrared film by UV radiation, you should use what color filter?
1. Blue
 2. Red
 3. Green
 4. Yellow
- 2-17. What areas of a black-and-white negative have the greatest amount of silver deposits?
1. Contrast points
 2. Midtones
 3. Highlights
 4. Shadows
- 2-18. What term describes the amount of silver deposit present in any area of a negative?
1. Highlight
 2. Contrast
 3. Midtone
 4. Density
- 2-19. What term describes the difference in densities between areas of a negative?
1. Contrast
 2. Latitude
 3. Emulsion definition
 4. Resolving power

2-20. Which of the following definitions best describes "emulsion latitude"?

1. The ability of a film to reproduce brightness differences
2. The amount of deviation from the correct exposure that will still produce acceptable densities
3. The evenness of the emulsion thickness applied to the film base
4. The variation in film processing time that still permits the emulsion to respond to the action of the fixing bath

2-21. What is exposure latitude?

1. The difference in negative densities
2. The amount of exposure variation that will still produce an acceptable image
3. The minimum exposure required to produce sufficient shadow detail
4. The amount of density produced by a given exposure

2-22. What factor(s) determine(s) the graininess of a negative?

1. Manufacturing
2. Exposure
3. Development
4. All of the above

2-23. All processed black-and-white film produces images with metallic silver.

1. True
2. False

2-24. The ability of a emulsion to record fine detail is known by what term?

1. Clumping action
2. Resolving power
3. Acutance
4. Graininess

2-25. The ability of an emulsion to produce sharp edges between differences in density is known by what term?

1. Clumping action
2. Resolving power
3. Acutance
4. Graininess

Learning Objective: Recognize components of black-and-white and color films.

2-26. Film is protected from friction, scratches, and abrasions before development by what part of the film?

1. Overcoating
2. Base
3. Antihalation backing
4. Noncurl coating

2-27. What part of the film prevents light from reflecting back from the base and affecting the light-sensitive silver halides?

1. Overcoating
2. Emulsion
3. Antihalation backing
4. Noncurl coating

2-28. The top emulsion layer of color film is sensitive to what color of light?

1. Blue
2. Green
3. Red
4. Yellow

2-29. What is the purpose of the yellow filter incorporated between the blue and green emulsion layers of color film?

1. To enhance the contrast
2. To prevent blue light from affecting the middle and bottom emulsion layers
3. To prevent the film from being affected by UV radiation
4. To aid in printing color negatives

2-30. In a color negative, what color is the image of a red subject?

1. Blue
2. Magenta
3. Red
4. Cyan

2-31. In color-reversal film, what color is the image of a red subject?

1. Red
2. Magenta
3. Blue
4. Cyan

2-32. Daylight color film may be used without filtration under which of the following light sources?

1. Sunlight
2. Electronic flash
3. Both 1 and 2
4. "Daylight" fluorescent lights

2-33. As a Navy Photographer's Mate, you should only use a professional type of film.

1. True
2. False

2-34. Instant picture film is very useful when used in which of the following situations?

1. Passport photographs
2. Identification photographs
3. Determining test exposures
4. All of the above

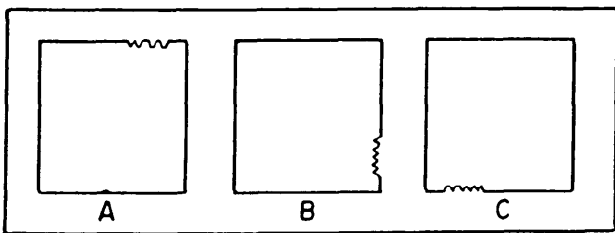


Figure 2A

2-35. What segment(s) of figure 2A represent(s) a sheet of film with the emulsion facing you?

1. A
2. B
3. C
4. Each of the above

2-36. When images are stored on a still-video floppy disk, what mode(s), if any, provide(s) the highest quality image?

1. Frame only
2. Field only
3. Both frame and field modes provide the same image quality
4. None

2-37. What number of images can be stored on a floppy disk when used in a still-video camera set on the "field" setting?

1. 20
2. 36
3. 50
4. 100

Learning Objective: Identify characteristics of photographic papers.

2-38. When, if ever, is panchromatic printing paper used in making black-and-white prints?

1. When printing high-contrast negatives
2. When printing low-contrast negatives
3. When using color negatives to produce black-and-white prints
4. Never, panchromatic papers are only used for making color prints

IN ANSWERING QUESTION 2-35, REFER TO FIGURE 2A.

2-39. The top emulsion layer of variable contrast, black-and-white paper is sensitive to (a) what color of light and produces (b) what type of contrast?

1. (a) Blue (b) high
2. (a) Green (b) low
3. (a) Blue (b) low
4. (a) Green (b) high

2-40. You are using variable contrast, black-and-white printing paper. The contrast of the print is primarily controlled by what stage of printing.

1. By different exposure times
2. By manipulating the processing time
3. By changing the angle of the projected image
4. By using filters

2-41. Which of the following color papers does NOT directly make a positive image from a color negative?

1. Ektacolor
2. Fujicolor
3. Ektachrome
4. Each of the above

2-42. The top emulsion layer of color paper produces what color of dye?

1. Red
2. Cyan
3. Blue
4. Yellow

2-43. Which of the following paper surfaces should you use to show fine detail in a print?

1. Matte
2. Semimatte
3. Pearl
4. Glossy

2-44. Photographic paper and film should be stored in a location that does not exceed what (a) temperature and (b) relative humidity?

1. (a) 75°F (b) 75%
2. (a) 50°F (b) 50%
3. (a) 75°F (b) 50%
4. (a) 50°F (b) 75%

2-45. You notice that the expiration date on a case of aerial film has expired. Which of the following actions should you take?

1. Discard the film immediately
2. Conduct photographic tests before using the film
3. Ignore the expiration date and use the film for an aerial mission
4. Freeze the film for 24 hours and then use it for Antarctic missions only

Learning Objective: Identify principal types of filters used in black-and-white and color photography.

2-46. What primary factor determines the effectiveness of a photographic filter?

1. The ability of the emulsion to respond to the light passed by the filter
2. The density of the filter
3. The color of the filter
4. The chemicals in which the light-sensitive emulsion is processed

2-47. It is not necessary to use color filters with black-and-white emulsions because only shades of gray are produced.

1. True
2. False

- 2-48. Contrast filters should be used for black-and-white photography for which of the following reasons?
1. To exaggerate a color
 2. To reduce a color
 3. To eliminate a color
 4. Each of the above
- 2-49. You are tasked to copy a document on white paper that contains red, green, and blue lines. You do not want the green lines to be noticeable in the final print. What color filter should you use?
1. Magenta
 2. Red
 3. Green
 4. Cyan
- 2-50. You are using black-and-white panchromatic film under daylight conditions. What color filter should you use to reproduce the colors of the scene with the same brightness relationship as seen by the human eye?
1. No. 8 (yellow)
 2. No. 23A (light Red)
 3. No. 34A (violet)
 4. No. 4 (cyan)
- 2-51. You are photographing a landscape scene with black-and-white panchromatic film. Which of the following filters should you use to reduce the appearance of haze in the final print?
1. Blue
 2. Cyan
 3. Red
 4. Magenta
- 2-52. Light balancing filters are available in what two colors?
1. Yellow and green
 2. Green and red
 3. Blue and red
 4. Blue and yellow
- 2-53. What color of light balancing filter should you use to lower the color temperature of light?
1. Yellow
 2. Green
 3. Red
 4. Blue
- 2-54. What color of light balancing filter should you use to raise the color temperature of light?
1. Yellow
 2. Green
 3. Red
 4. Blue
- 2-55. What type of filter should you use to make minor adjustments to the color quality of light used to expose film?
1. Light balancing
 2. Conversion
 3. Color compensating
 4. Correction
- 2-56. What instrument should you use to determine the color temperature of a light source?
1. Exposure meter
 2. Color analyzer
 3. Color temperature meter
 4. Spot meter
- 2-57. What are the two series of conversion filters?
1. 80 and 81
 2. 80 and 85
 3. 85 and 86
 4. 85 and 90
- 2-58. What color conversion filter is used to expose daylight-type film under tungsten light?
1. Blue
 2. Green
 3. Amber
 4. Cyan

- 2-59. When exposing color film under fluorescent light, you should use what type of filter?
1. Color compensating
 2. Conversion
 3. Correction
 4. Light balancing
- 2-60. What maximum number of CC filters can be used effectively on a camera lens?
1. One
 2. Two
 3. Three
 4. Four
- 2-61. A CC20M filter has a peak density of 0.20 to what color of light?
1. Yellow
 2. Blue
 3. Magenta
 4. Green
- 2-62. What is the complementary color of green?
1. Yellow
 2. Blue
 3. Cyan
 4. Magenta
- 2-63. What combination of complementary colors make up red?
1. Yellow and cyan
 2. Magenta and yellow
 3. Cyan and yellow
 4. Magenta and cyan
- 2-64. What is the equivalent filter pack of a 50G + 20R + 10B CC-filter pack?
1. 40G + 10R
 2. 50G + 20R + 0 ND
 3. 60G + 30R + 20B
 4. 80 ND
- 2-65. Which of the following filters is NOT selective in the color of light it absorbs?
1. Correction
 2. Neutral density
 3. Color compensating
 4. Conversion
- 2-66. What ND filter is used to reduce exposure by two f/stops?
1. .20
 2. 2.00
 3. .30
 4. .60
- 2-67. What color filter is most effective for cutting haze?
1. Red
 2. Yellow
 3. Blue
 4. Green
- 2-68. For which of the following situations may polarizing filters be used?
1. To reduce reflections from water
 2. To reduce the effect of haze
 3. To increase color saturation
 4. Each of the above
- 2-69. Your light meter indicates an exposure of 1/500 sec at f/11. You then add an orange filter with a filter factor of 4. What is your new exposure setting?
1. 1/500 sec at f/22
 2. 1/500 sec at f/8
 3. 1/250 sec at f/11
 4. 1/125 sec at f/11
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- Learning Objective: Identify the uses for filters in photographic darkrooms.
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- 2-70. Which of the following light sources is used as a safelight in black-and-white print rooms?
1. Mercury vapor
 2. Sodium vapor
 3. Quartz halogen
 4. Fluorescent
- 2-71. You have a black-and-white negative with high contrast. What color variable-contrast printing filter should you use to produce a print with normal contrast?
1. Blue
 2. Green
 3. Yellow
 4. Magenta
- 2-72. Which of the following filters should always be used in a color printing system?
1. Color compensating
 2. Dichroic
 3. Color printing
 4. Ultraviolet absorbing
- 2-73. What type of filter works on the principle of wavelength interference, rather than wavelength absorption?
1. Color compensating
 2. Color printing
 3. Safelight
 4. Dichroic
- 2-74. CP filters are used the same as CC filters in a color printing system.
1. True
 2. False
- 2-75. Photographic filters should not be exposed to heat above what maximum temperature?
1. 100°F
 2. 120°F
 3. 150°F
 4. 200°F